

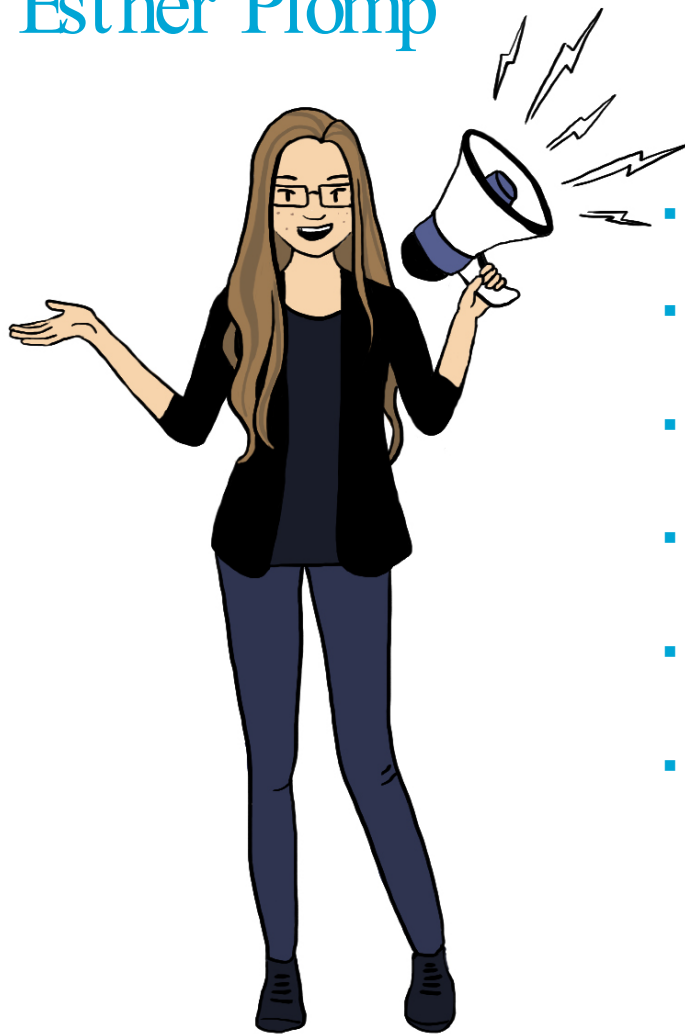
The Library's Carpentry Training & Open Education

Esther Plomp 14-03-2024

<https://doi.org/10.5281/zenodo.10816486>

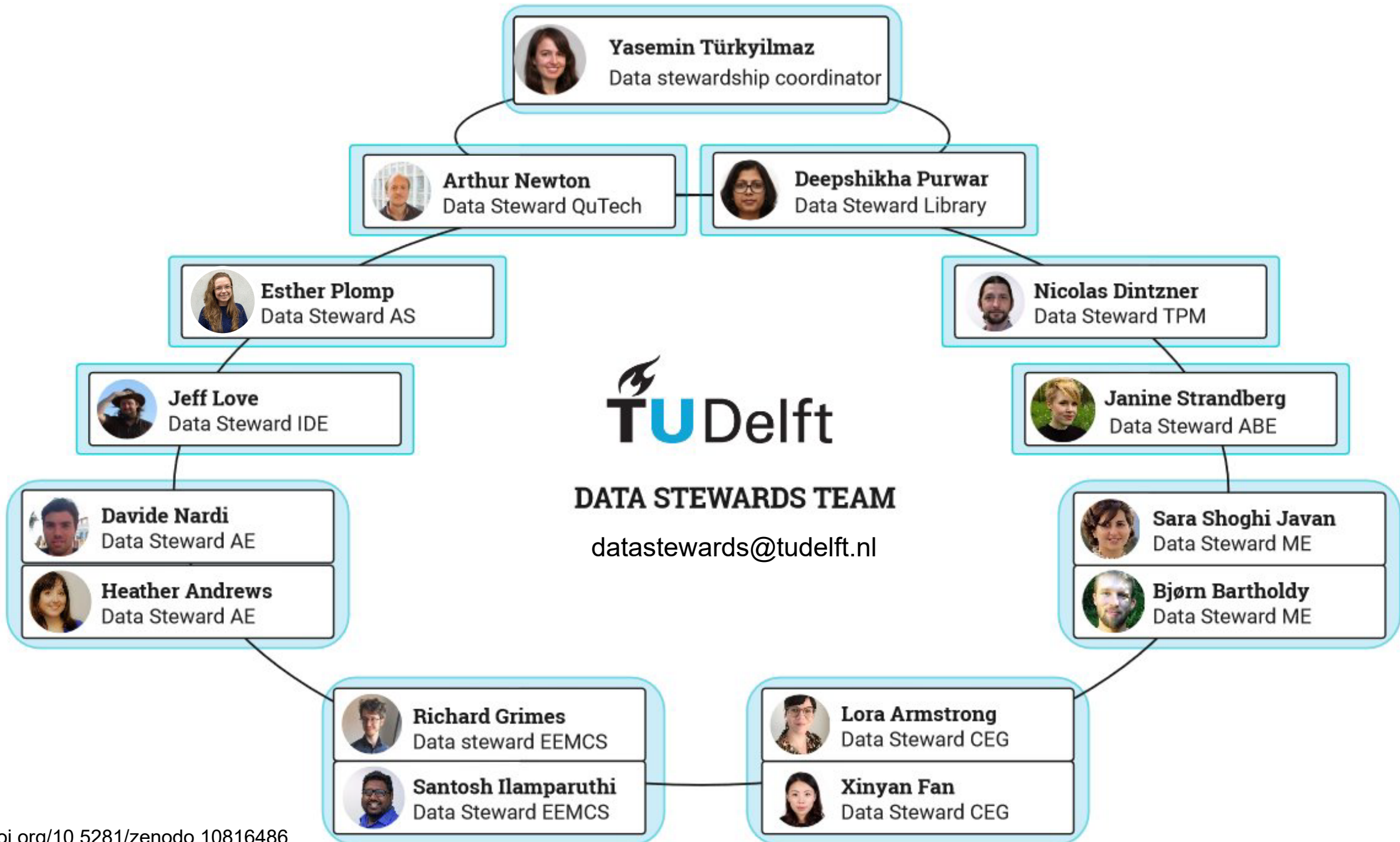


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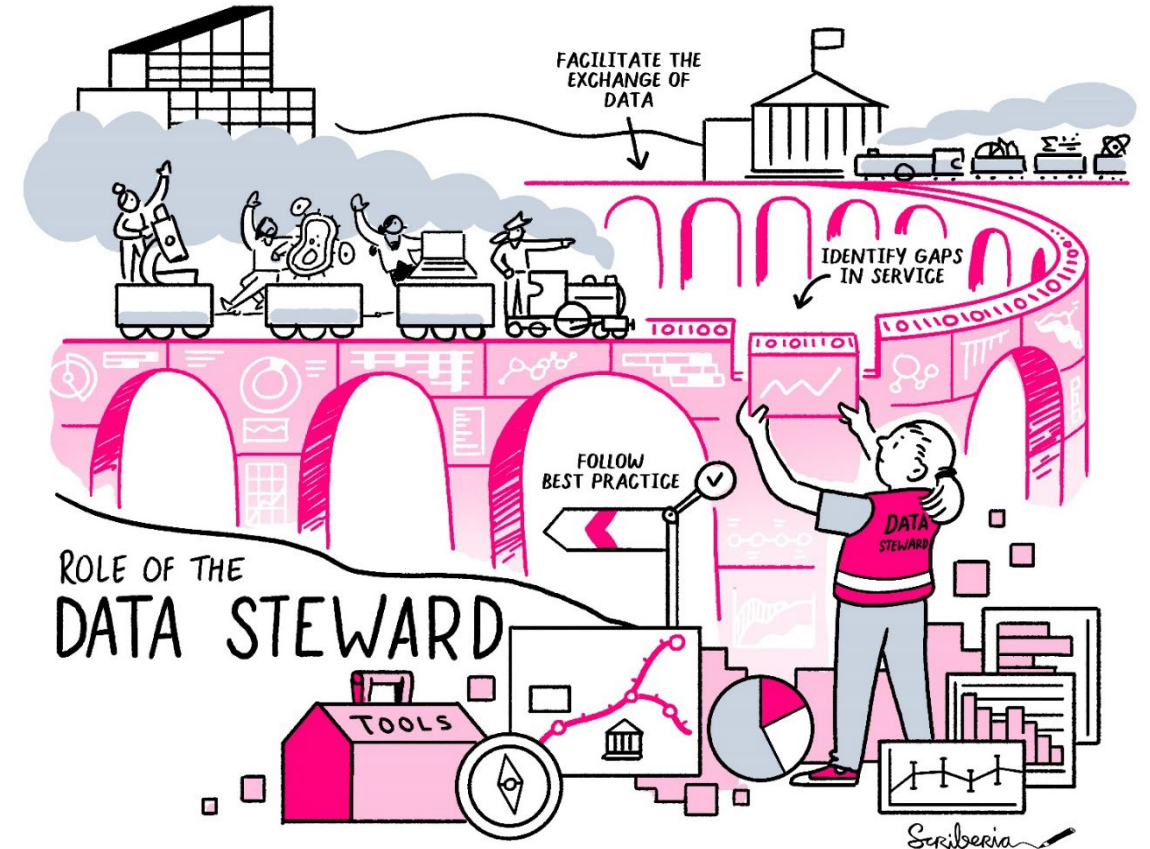
- she/her / e.plomp@tudelft.nl / [@PhDtoothFAIRy](https://www.instagram.com/PhDtoothFAIRy) / [0000-0003-3625-1357](tel:0000-0003-3625-1357)
- **Data Steward @TU Delft, Faculty of Applied Sciences, NL**
- Open Research Ambassador & Secretary General [@IsoArch](https://www.isoarch.nl)
- Contributor [@The Turing Way](https://www.theturingway.com)
- Mentor [@Open Life Science](https://www.openlifescience.org)
- Team member [@Open Research Calendar](https://www.openresearchcalendar.org)





Data Steward

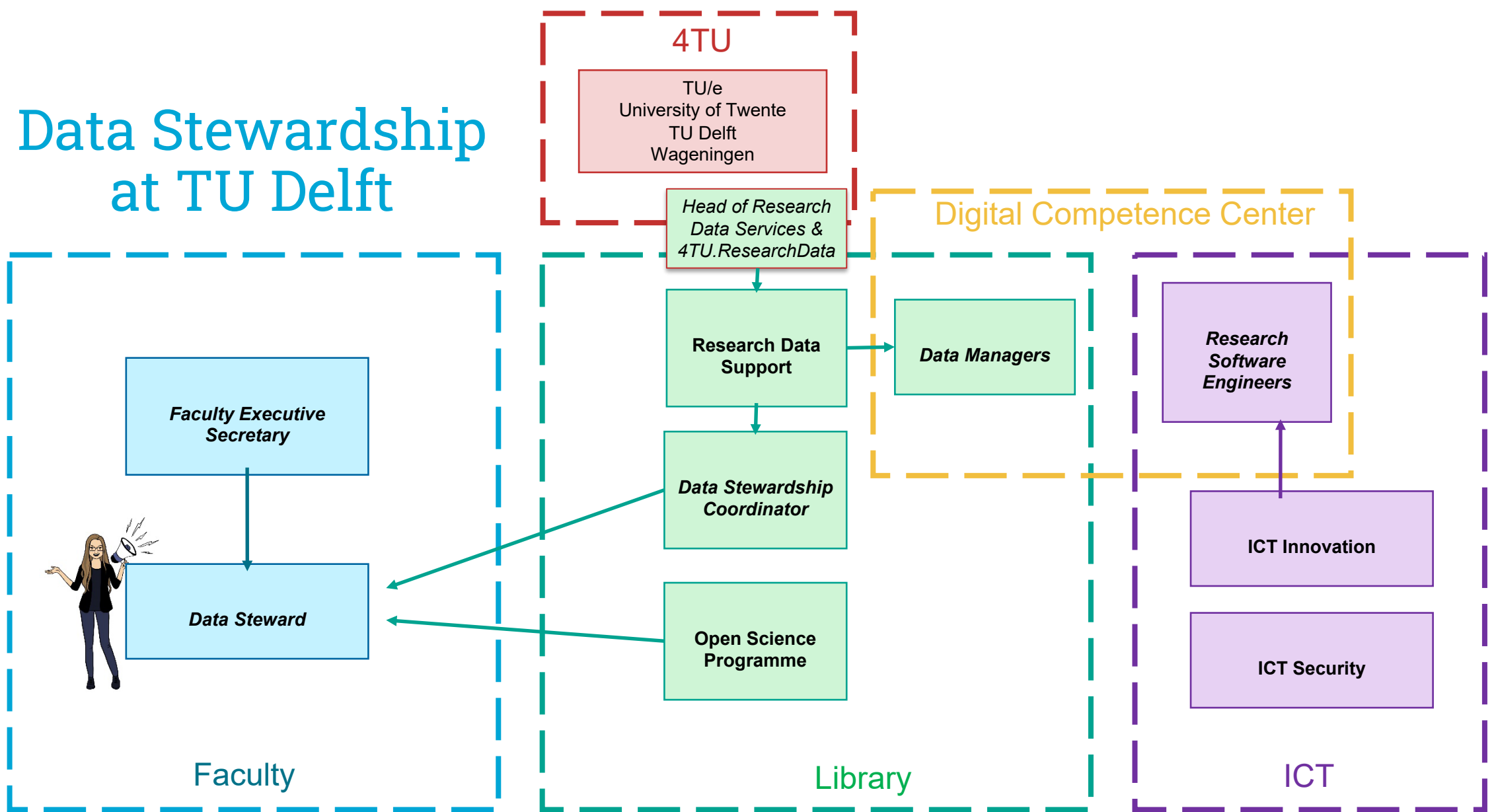
- First contact point for all data/software/open science questions (advice!)
 - Policy development
 - Advocacy
 - **Training**
 - Network: referral to other support as needed



The Turing Way project illustration by Scriberia. Used under a CC-BY 4.0 licence. DOI:

[10.5281/zenodo.3332807](https://doi.org/10.5281/zenodo.3332807).

Data Stewardship at TU Delft



TU Delft Open Science Program

TU Delft Library

<https://www.tudelft.nl/en/open-science>

library@tudelft.nl

Join the [Open Science Community!](#)

Everyone, no matter their background, experience and culture can take part in research and higher education

Equity

Research and education are transparent for validation, and all contributions are recognised

Integrity

**Open
Science**

Collaboration

Exchanging knowledge and perspectives sooner and in every step, from ideation to communication

Impact

Open work is more visible and can be reused and adapted to build new research and educational materials

TU Delft Open Education

The [Open Education project](#) supports teachers via **training, advice, tools and infrastructures**, for instance for sharing and reusing teaching materials.

- [TU Delft Open Educational Resources](#) (OER) Policy (2021)
- [Open Education Stimulation Fund](#) (up to €20.000)
- Support with making educational resources open (for example, [interactive Jupyter books](#))

Open Education coordinator =

Marcell Várkonyi (m.varkonyi@tudelft.nl)



Trainings

- Carpentry workshops

Training for Researchers



Software Carpentry
workshops



Data Carpentry for
Social Sciences



Geospatial Data
Carpentry for
Urbanism



Research Data
Management 101



MOOC Open Science



CodeRefinery
workshops



Personal Data &
Human Subjects in
Research



Version control &
Collaborative
development for



TU Delft R Café



Digital Competence Center (since 2020)

- The DCC support team can help you organize your research workflow
- Project based data & software support
- [Code & Data Office Hours](#)
- [Overview of the team](#) & dcc@tudelft.nl

4TU.ResearchData & The Carpentries



The Carpentries - 4TU.ResearchData started collaborating with The Carpentries in 2018 to deliver Software Carpentry workshops for researchers from partner universities of 4TU.ResearchData. In addition to Software Carpentry workshops, we collaborate with researchers to develop and deliver discipline-specific data carpentry workshops.

Paula Martinez Lavanchy

P.M.MartinezLavanchy@tudelft.nl

- Software Carpentry workshops are organised at TU Delft by Library, ICT Innovation, Data Stewards and the DCC
- Workshop websites via [GitHub](#)
- Members receive priority access to [Instructor Training](#)
- In 2020 the [workshops shifted online](#)
- Primarily for **PhD candidates**
- PhD candidates can also participate as helpers in the course for credits!

The Carpentries



- A non-profit organisation
- Provides accessible research computing training for scientists
- Format of **two intensive days of programming** (since 2012 - [Wilson 2016](#))
- Aims to teach the most **fundamental computational skills**
- [Carpentries Code of Conduct](#)
- All lesson materials are **CC-BY** licensed
- Anyone can run a Carpentries workshop (if info is shared with The Carpentries, at least one Carpentries-certified Instructor is present and the workshop should cover specific core topics).

The Carpentries - Teaching



- Tailored for gaining hands-on computational skills through peer learning (pair exercises)
- At least two **Instructors**
- A **Helper** for every eight learners is present ([Wilson 2016](#))
- Pre- and postworkshop **surveys**
- Use of a **collaborative note-taking document**
- Real-time feedback is provided by two sticky notes of different colours
- Feedback to improve the workshops via stickies and survey

Software/Data Carpentry Workshops

- [Software Carpentry](#)

Lesson

The Unix Shell

Version Control with Git

Programming with Python

Plotting and Programming in Python

Programming with R

R for Reproducible Scientific Analysis

- [Data Carpentry](#)

- [Image Processing with Python](#)
- [Data Analysis and Visualization in Python for Ecologists](#)
- [Data Analysis and Visualization with Python for Social Scientists *alpha*](#)
- [Python for Atmosphere and Ocean Scientists](#)

Curriculum materials

- [Astronomy curriculum](#)
- [Ecology curriculum](#)
- [Genomics curriculum](#)
- [Geospatial data curriculum](#)
- [Social Sciences curriculum](#)



Software Carpentry Workshops

- [TU Delft February workshop](#)
- [Workshop materials](#)

Day 1

12:30 pm	Installation Problems and Pre-workshop Survey
1:00 pm	Programming with Python Part 1
2:00 pm	Break
2:15 pm	Analysing Data with Python
3:30 pm	Break
3:45 pm	Repeating actions with FOR Loops
5:00 pm	Wrap-up and End

Software Carpentry Workshop

Delft University of Technology

Feb 5-8, 2024

12:30 - 17:00 hrs

Instructors: Alexander Garzon Diaz, [Maurits Kok](#), Halford Dace, Giordano Lipari

Helpers: Halford Dace, [Maurits Kok](#), [Heather Andrews](#), [Carlos Utrilla Guerrero](#), [Xinyan Fan](#), [Eugenio Tamassia](#), [Selin Kubilay](#)

Carpentries Incubator

- Anyone can develop or contribute to a lesson via the [Carpentries Incubator](#)
- Contains an [overview of lessons](#) still in development, for example **beta lessons** on:
 - [An introduction to Python for non-programmers using Gapminder data](#)
 - [Interactive Data Visualizations in Python](#)
 - [GPU Programming with Python and CUDA](#)
 - [Intermediate Research Software Development Skills In Python Lesson Material](#)
 - [Learn Deep Learning with Python](#)
 - [Parallel Programming in Python](#)

Code Refinery Collaboration

- [Intermediate programming lessons](#)
- Language agnostic
- Python specific lessons
 - [Jupyter notebooks](#)
 - [Data visualization using Python](#)
 - [Mixed Martial Arts: Interfacing Fortran, C, C++, and Python](#)
- Part of the [DCC FAIR for Research Software Program 2024](#)



Thank you!

e.plomp@tudelft.nl

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